

note that boron fluoride is employed as a raw material for making a polyether; not as a hardening agent for the polyether, e.g., compare Col. 2, Lines 25-27, Col. 6, Lines 17-19 and Col. 6, Line 41 of '134. Assuming arguendo that boron trifluoride was employed as a catalyst or hardening agent, boron trifluoride is not reasonably characterized as a hydrogen donating Lewis acid. Consequently, Parry fails to disclose, teach or suggest an exothermic method that employs a substantially water free hydrogen donating Lewis acid.

Carey et al. (U.S.P.N. 3,154,504) discloses a method for making epoxy foam in which the use of elevated temperatures are avoided, and cured without recourse to chemical blowing agents, e.g. refer to Col. 1, Lines 45-57 and Col. 4, Lines 60-75 of U.S.P.N. '504. This patent does not employ an exothermic reaction for expanding a blowing agent; but rather, '504 requires using a superatmospheric pressure that when released causes foaming to occur. While '504 does disclose phosphoric acid, '504 does not disclose selecting phosphoric acid and selecting a substantially water free phosphoric acid and in turn exothermically reacting the selected acid/epoxy to expand an encapsulated blowing agent. Carey also teaches avoiding "very rapid-acting curing agents such as BF<sub>3</sub>", e.g., refer to Col. 4, Lines 50-60 of Carey in contrast to instant Examples 18-23.

Moreover, neither Carey nor Parry disclose a two part foam system. The absence of such a two part foam system in the primary references is an indicia of unobviousness. It is noted that no references were cited or applied to support the comment in the Office Action that "the use of a two package system employed to separate the reactants"; especially in an epoxy based system. It is also noted that the Office Action lacks any explanation as to how or why a skilled person in this art would combine the superatmospheric process of Carey with a two part system.

Kagoshima et al. discloses a latent curing single-phase admixture that foams after being exposed to an external source of heat, e.g., refer to Col. 3, Lines 14-26 of Kagoshima. Hence, Kagoshima cannot teach the claimed A and B side precursors. Kagoshima achieves an exothermic reaction by external heating and melting his composition thereby permitting molten latent curing agents to interact with the molten composition, e.g., refer to Col. 2, Lines 35-44; Col. 3, Lines 14-26 and 38-47 and 53-66; and Col. 6, Lines 35-40 of Kagoshima. Such external heating is contrary to the objects of Carey, and incompatible with the superatmospheric process of Carey.

Kagoshima fails to teach the claimed acid source and usage thereof to produce a foam. Applicants respectfully submit that under ambient conditions neither boron trifluoride nor phosphoric acid additions would produce a useful foam in Kagoshima's system. It is important to note that Carey teaches away from BF<sub>3</sub>. It is also important to note that the hydrazide and anhydride curing agents disclosed by Kagoshima do not function as a hydrogen donating Lewis acid. Acid anhydrides function as latent curing agents and consistent with Kagoshima's other curing agents require an external heat source to become active. In contrast, the

instant invention can employ a Lewis Acid that substantially simultaneously produces a foam when the A and B sides are contacted.

Wyceh (U.S.P.N. 4,923,902) fails to remedy the deficiencies of Parrey, Carey or Kagoshima. Wyceh does not employ a hydrogen donor comprising at least one substantially water free Lewis acid for generating an exothermic reaction, e.g., refer to Col. 8, Lines 5-17 of Wyceh. Indeed the curing agents of Wyceh are basic curing agents, e.g., amines. A skilled person in this art would not believe that basic curing agents are relevant to the claimed invention that employs an acid source; but rather that Wyceh teaches away from using the claimed acid source.

Moreover, Wyceh teaches a delayed or slow cure time, e.g., 30 minutes. Such a slow cure time further indicates that the instant invention and Wyceh employ distinct chemistries, e.g., the instant invention can substantially simultaneous obtain a foam upon contacting the A and B sides. Further, Wyceh is limited to a precursor having a dough-like consistency whereas the instant invention can employ a liquid precursor, e.g., the instant invention can be dispensed as a pumpable material. Further yet, unlike Kagoshima, Wyceh expressly claims the absence of heat when producing a foam, e.g., refer to Claim 1 of Wyceh.

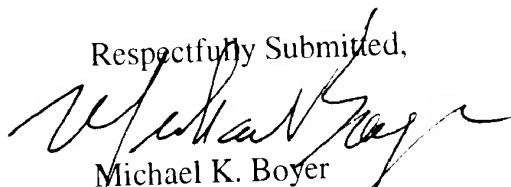
While it could be argued that Wyceh teaches using a Part A and Part B such is contrary to the disclosure of Carey that employs a superatmospheric process, or Kagoshima that clearly teaches the requirement of a single phase heat/hot melt activated system. That is, there is no problem of premature exothermic reaction since Kagoshima expressly requires a heat activated latent curing system and Carey employs a superatmospheric process wherein the use of elevated temperatures is avoided. Separating the epoxy resin and catalyst is antithetical to the express teachings of Kagoshima, e.g., such separation would inhibit, if not prevent, the molten reaction contemplated by Kagoshima. For these reasons, Applicants respectfully submit that Wyceh is not combinable with Kagoshima and/or Carey and, if combined, cannot render the claimed invention obvious.

Moreover, none of the cited references disclose other aspects of the invention such as using a containment device, at least one polyol, a foam composite or laminate, polyvinyl alcohol, phenoxy resin, the dispensing system of Figure 2, among other aspects of the invention. For these reasons, Applicants respectfully submit that none of the references of record can be properly combined to support a prima facie case of obviousness.

The instant application claims benefit under 35 U.S.C. 120 of prior filed parent U.S. Patent Application Serial Nos. 09/081,967 and 09/197,124. Applicants respectfully request consideration of these applications as well as the information cited on the Information Disclosure Statements filed therein.

Please find attached hereto a Petition for a Three Month Extension of Time. Should there be any other fee due in connection with this Application, please charge the same to Deposit Account No. 15-0680 (Orscheln Management Company). Should the Examiner deem that any further action on the part of Applicant would advance prosecution, the Examiner is invited to telephone Applicants' attorney.

Respectfully Submitted,



Michael K. Boyer  
Attorney for Applicants  
USPTO Reg. No. 33,085  
tel: 660 269-4536/fax: X4530  
email: mboyer@orscheln.com

Attachments: Three Month Extension of Time  
Certificate of Mailing dated September 18, 2000